Operating Instructions

Argone Weld Gas Analyser

General

Congratulations for purchasing your new Argone Weld Gas Analyser!

The Weld Gas Analyser reliably and accurately measures the oxygen content in the welding environment, enabling you to closely monitor the quality of your purge. It will tell you as soon as a low enough oxygen content has been reached to start welding which will save time and argone gas and can also monitor the purge atmosphere during welding to warn you if any oxygen penetration occurs.

The Argone Weld Gas Analyser is therefore the perfect tool for a perfect weld!

12 Months warranty.

Part Number: TMWGA0001.

Before Use

- Carefully read these instructions before using your Weld Gas Analyser.
- Do not put pressure on the measuring sensor in the Weld Gas Analyser.
- Always connect the Weld Gas Analyser to a volume that has an exhaust to avoid pressurising the sensor.
- Do not use the Weld Gas Analyser directly connected to a gas bottle.
- Always connect to a regulator and flow meter to the gas bottle.

Unpacking

Your Argone Weld Gas Analyser is supplied in a lightweight storage and transport case which is easily portable and will guarantee your instrument's safety and longevity during storing and on site.

Your Weld Gas Analyser was thoroughly tested and calibrated before dispatch and is ready for you to use immediately.
However, we recommend checking the instrument for shipment damage before use.

The Complete Kit

Your Weld Gas Analyser kit contains:

- Weld Gas Analyser
- Oxygen sensor (already fitted)
- Flow adaptor
- Metal sampling probe
- 2 meter rubber hose for connection to the sampling probe
- Rubber aspirator bulb (fitted with 250 mm connection hose)
- Carrying strap
- Operating instructions
- Calibration and test certificate

Assembling Your Weld Gas Analyser . . . . . .

1. The sensor of your Weld Gas Analyser is covered by an adhesive foam seal (A) which protects it during shipment. Remove this seal before the first use since it will hinder the gas reaching the sensor.

2. Switch on your Weld Gas Analyser using the on/off switch (B).

3. Adjust the oxygen content displayed to the air oxygen content of 20.90% using the adjustment wheel (C).

4. Wait 5 minutes to allow display to stabilise. Re-adjust is necessary.

5. Connect the flow adaptor (D) to the sensor outlet of the Weld Gas Analyser.

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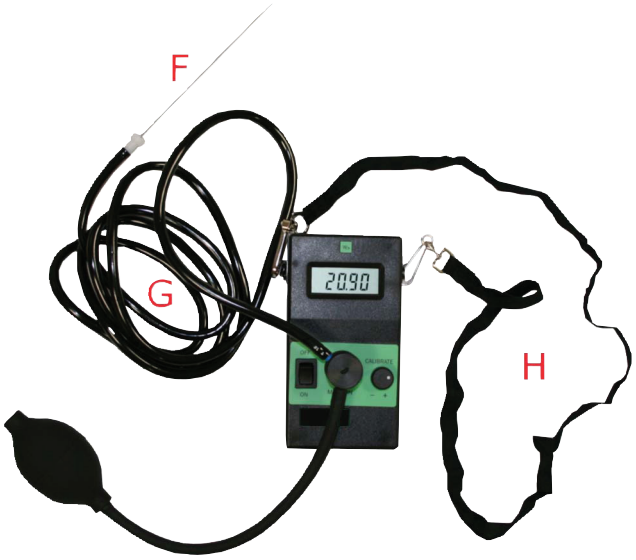
Assembling Your Weld Gas Analyser . . . . . .

6. Connect the hose fitted to the aspirator bulb (E) to one port of the flow adaptor.

The aspirator bulb is used to draw a gas sample to the sensor for measurement.



7. Connect the steel sampling probe (F) to one end of the rubber hose (G) and connect the other end of the hose to remaining port of the flow adaptor.

8. Clip the carrying strap into the loops on each side of the Weld Gas Analyser.

Your Weld Gas Analyser is now ready for use.

Using Your Weld Gas Analyser in Pipe Welding . . . . . .

The Argone Weld Gas Analyser can be used for all purge applications where the oxygen content has to be monitored.

This includes purging with purge bladders, purge dams, silicone disc systems, soluble purge films and papers as well as foam dams and welding enclosures and chambers.

For the best welding results, it is recommended the use of inflatable pipe purge systems or Silicone disc purge dams together with your Argone Weld Gas Analyser when welding pipework and tubular vessels.

1. Your Weld Gas Analyser can be secured on the pipe using the carrying strap.

2a. When using a inflatable purge system together with the Weld Gas Analyser, the metal sampling probe is removed from the connection hose. The connection hose can then be directly connected to the exhaust outlet of the purge system. This guarantees reliable continuous measurements of the oxygen content in the purge environment.

2b. When using other purge bladders, papers, films etc. the metal sampling probe is left connected to the connection hose and can be inserted through the weld gap between the two pipes that are being joined (if open root gap welding is applied).

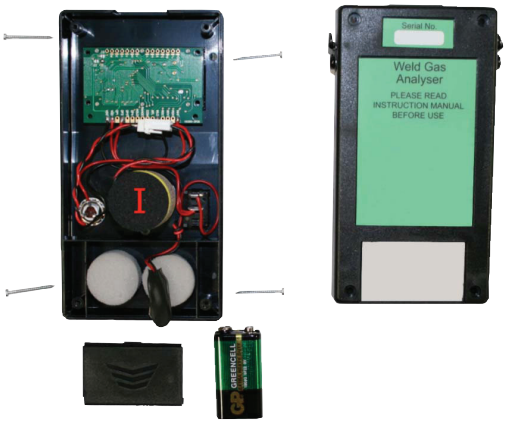
3. Once the Weld Gas Analyser is connected to the purge volume, a sample of the gas can be drawn by pressing and releasing the aspirator bulb.

4. Once the appropriate oxygen level has been reached (usually around 0.1%) and appears stable, welding can begin.

5. Weld gas samples should be drawn regularly throughout welding since oxygen penetration can damage the weld at any stage of the welding process.

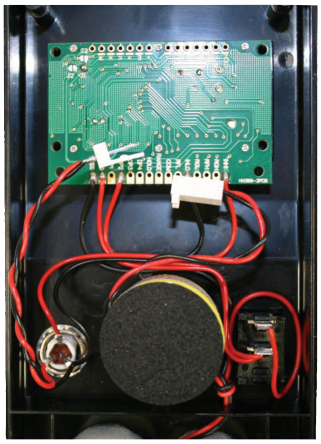
If connected directly to a inflatable purge system, gas will flow over the sensor continuously. This allows a constant and close monitoring of the oxygen level throughout the duration of the weld without having to draw samples

Changing The Sensor Of Your Weld Gas Analyser .....



Please do not stock replacement sensors since the shelf life and performance will decrease when they are not in use.

1. Switch off your Weld Gas Analyser and remove the flow adaptor.
2. Remove the battery compartment cover by sliding it off and disconnect the batteries.
3. Put the Weld Gas Analyser face-down on a flat and stable surface and remove the four screws in the corners of the rear of the case. Disconnect the back casing from the front casing.



4. The sensor (I) is wired to the circuit board. Wires are connected to the sensor by a pin connector which can be disconnected by lifting the locking latch on the connector outwards. The connector can lifted off the connector housing which is located on the circuit board.
5. Unscrew the sensor and remove it.
6. Screw the new sensor in place and reconnect the pin connector to the connector housing by pushing it in.
7. Re-attach the back casing to the front casing using the 4 screws.
   Take care to feed the battery wires into their slots in the case.
8. Reconnect the battery and put the battery cover back in place.

9. Switch on Weld Gas Analyser to confirm that it is working properly.

Trouble Shooting . . . . . .

1. **Display shows "00.00"**
   This reading occurs when no sensor is in place. Replace the sensor following the instructions above.

2. **Display shows "low battery"**
   Replace the batteries in the Weld Gas Analyser.

3. **Weld Gas Analyser cannot be adjusted to 20.90%**
   Before use the adjustment wheel should be moved carefully until the display shows 20.90. If this is not possible:
   Remove the flow adapter as it may impede the contact of air with the sensor.
   Wait a few minutes.
   If the reading still cannot be adjusted to 20.90%, the sensor needs to be changed (see instructions above).

4. **Oxygen level around 0.1% cannot be reached**
   Make sure the Weld Gas Analyser displays 20.90% in air before use. If it is not adjusted correctly, reading errors will occur.

   Measure a purge gas sample from the gas bottle by connecting the connection hose of the Weld Gas Analyser to a hose connected to the gas bottle regulator. If the gas you use for purging is not pure enough, a sufficiently low oxygen content cannot be reached.

   Make sure there are no leaks in the gas hoses used. This will cause decreased flow into the purge environment.
   Make sure the pipe is clean and does not contain moisture, dirt, oil or other contaminations. These may outgas oxygen.

   Make sure you use a higher flow rate if you are purging with foam, paper or soluble films. These materials are porous and will allow oxygen penetration and entry into the purge environment. The use of inflatable purge systems will guarantee a tight seal and will thus eliminate this problem.

Any Questions . . . . . .

Please contact us for any further questions and inquiries and also ask us about our large range of inflatable purge systems, silicone disc purge dams, weld backing products, pipe clamps, pipe stoppers and pipe freezing equipment.

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